

EXHIBIT A

REVISED
FLOOD HAZARD REPORT

FOR

#MS 81-83 JOHNSON

OWNER:

Don Johnson
500 Pinoleville
Ukiah, CA 95482
PH: (707) 468-8736



PREPARED BY:

Taggart Engineering
P. O. Box 186
725-A So. Dora Street
Ukiah, CA 95482

July 18, 1984

INTRODUCTION

This study of Ackerman Creek, along the property of Mr. Johnson, is being conducted to comply with the Conditions of Approval for #MS 81-83 Johnson, dated February 16, 1984.

Ackerman Creek flows into the Russian River after originating in the mountains to the west of Ukiah Valley. Ackerman Creek is 11 miles long and its drainage area is found to be 20.6 square miles at its confluence with the Russian River, which is approximately 5900 feet downstream from the Johnson Property.

* It was reported that the gravel levee along the southerly bank of Ackerman Creek was constructed in the 1960's. Residents in the immediate area report that no flooding has occurred in the past 10 years.

The levee, at the time of this report, is in fair to good repair although yearly maintenance will be needed by the owners of the individual parcels adjacent to the levee. No governmental agency or other organization is responsible for the condition of the levee at any time.

FINDINGS

The highest water reported at the State Street Bridge over Ackerman Creek during the 1964 flood, 2500 feet downstream from the northeast corner of the Johnson Property, was 623.88 feet.

Also, near the northwest corner of the Johnson property the 1964 flood crest was reported at 638.72 feet, which is approximately 0.8 feet below the FEMA study 100 year flood elevation.

This information is recorded in the FEMA study of unincorporated areas, and in Table 2. In the flood profile section of the

FEMA study, Plate 20P, the 100 year Highwater Elevation (H.W.) near the northeast corner of the Johnson property, is shown as 633.2 feet, the 10 year H.W. is 631.5 feet and the stream bed is 625.2 feet. On June 22, 1984, the stream bed is recorded at approximately 621.0 feet, using the reference Bench Mark used by FEMA Study Contractors while conducting this study in 1978 and later years.

The 100 year H.W. near the northwest corner of the Johnson property is shown as 639.3 feet, the 10 year H.W. is shown as 637.8 feet. It should be noted that the stream bed gradient is steeper than that of surrounding properties.

* It appears that the gravel levee, piling, cables and wire mesh installed along the levee were constructed along the Pinoleville Indian Reservation Property and was originally built to the elevation of 631 feet more or less, being about one foot above the 1964 flood H.W. With time, and gravel extraction operations along Ackerman Creek, the stream bed has degraded approximately 4.2 feet since the FEMA study was started. This will directly affect the H.W. surface for any given storm frequency. As a stream bed scours, the area does not increase proportionally; however, for such a small change in depth of water and the width remaining nearly the same, the water surface will decrease an amount nearly equal to the change in depth.

It should be noted at this time, that if and when gravel extraction ceases in Ackerman Creek, the aggradation will most likely restore the creek bed to a condition nearly equal to the time of the FEMA study and that the results of the FEMA study will be used as a basis for determining any flood hazards.

CONCLUSIONS

Assume that the water surface is lowered by 3 feet, due to the 4 foot degradation of the stream bed, the H.W. for a 100 year

storm would be 630.2 feet and 627.5 feet for a 10 year storm, for the area near the northeast corner of the Johnson property while at the northwest corner the H.W. for a 100 year storm would be 636.3 feet, and for the 10 year storm, the H.W. would be 634.8 feet. This is to say that during present conditions and current land uses, the 10 year storm will not crest the levee, but the 100 year storm will inundate the entire property.

It should be noted that at the location of the haul road, near the northeast corner of the Johnson property, the 10 year storm can crest the levee because of constant use and grading, and is need of repair before the winter rainy season.

In Conclusion, the Johnson property does not lie within the 10 year flood plain, but does lie within the 100 year flood plain. At the date of this report, the 500 year frequency storm will crest the levee. Within a few years of continued gravel removal operations, the levee may protect from the 500 year flood if the levee is kept in good repair and/or portions are not removed for any reason (i.e. drainage, etc.).

RECOMMENDATIONS

For the safety of all who rely on the gravel levee for protection from the 10 year flood, an annual inspection and/or repairs would be beneficial. Inspection in the fall before the storms and inspection and repair in the spring, if needed.

For the density proposed for this minor division, and the acreage of each lot, it is recommended that the water from the property be allowed to be absorbed into the ground. The proposed V-ditch, shown on the drainage plan prepared for this minor division, directs the water to the northeast corner of Lot 1. At present, all water entering or generated on the lands of Johnson, is absorbed into the ground because of the high gravel content.

Future division or increased densities will generate drainage that will at some point need to be collected into a tank or basin and mechanically pumped over the levee. This will require further engineering at that time to determine a system capable of handling total allowed densities in accordance with the County General Plan and Zoning Ordinances.

TAGGART ENGINEERING

P. O. Box 186
UKIAH, CAL. 95482
(707) 468-0919

SHEET NO. A

OF

CALCULATED BY BILL

DATE

CHECKED BY

DATE

SCALE

FEMA: $Q_{100} = 5370 \text{ cfs}$
 $A_{100} = 1043 \text{ FT}^2$

w/ 6' DEPTH $\Rightarrow \frac{1043}{6} = 174' \text{ WIDTH}$

EXISTING TODAY

9.5' DEPTH

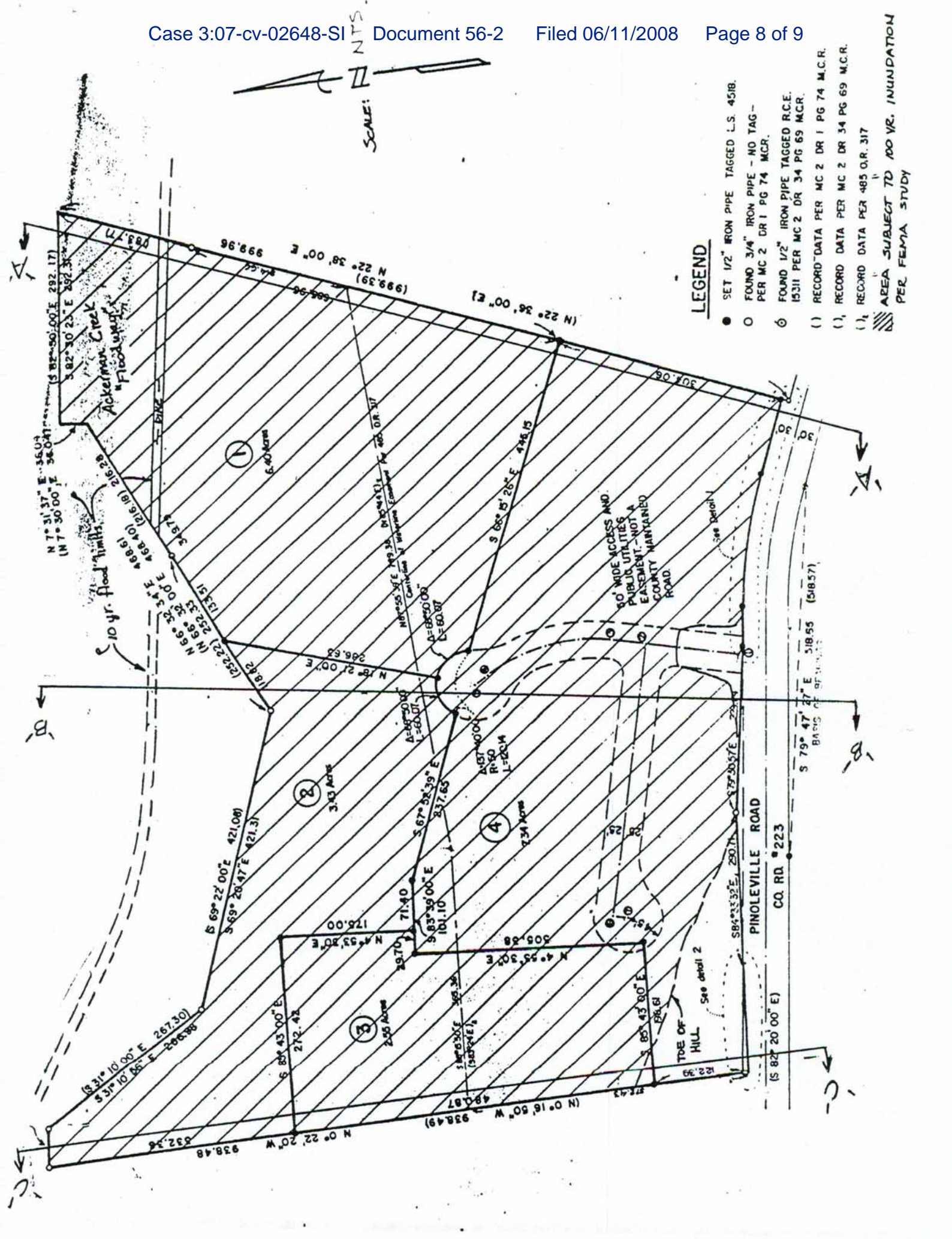
175' AVE. WIDTH

$\therefore A = 1663 \text{ FT}^2$

USING TOP WIDTH = 200'
WIDTH @ 6' DEPTH = 170'

$$A = \frac{200' + 170'}{2} \times 6' = 1110 \text{ FT}^2 > 1043 \text{ FT}^2$$

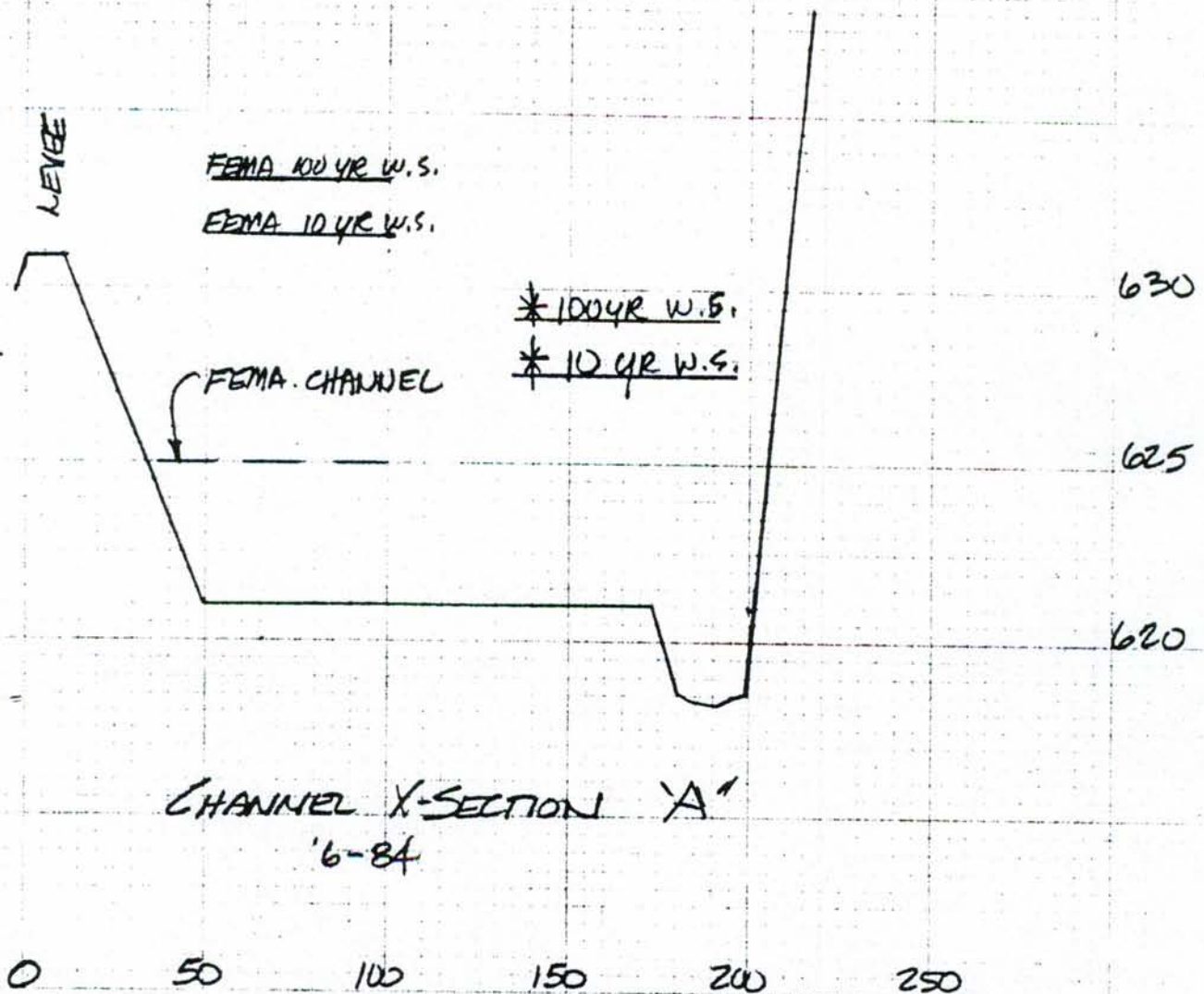
\therefore 100 YR STORM SHOULD NOT
CREST LEVER AT THIS TIME
USING FEMA INFORMATION



LEGEND

- SET 1/2" IRON PIPE TAGGED L.S. 451B.
- FOUND 3/4" IRON PIPE - NO TAG - PER MC 2 DR 1 PG 74 MCR.
- ⊙ FOUND 1/2" IRON PIPE TAGGED R.C.E. 15311 PER MC 2 DR 34 PG 69 MCR.
- () RECORD DATA PER MC 2 DR 1 PG 74 M.C.R.
- (), RECORD DATA PER MC 2 DR 34 PG 69 M.C.R.
- (), RECORD DATA PER 485 O.R. 317
- ▨ AREA SUBJECT TO 100 YR. INUNDATION PER FEMA STUDY

* W.S. ELEV. USING CURRENT CREEK FLOWLINE



**TAGGART
ENGINEERING**

P.O. BOX 186 • 725-A SOUTH DORA STREET
UKIAH, CALIFORNIA 95482

468-0919

84-104

Johnson

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